MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes X
no ____

Property Name: Washington Grove Humpback Bridge Inventory Number: M: 21-220

Address: East Deer Park Drive over CSX Transportation, Inc. Railroad tracks at Railroad Street Historic district: ____ yes X no

City: Washington Grove Zip Code: 20880 County: Montgomery

USGS Quadrangle(s): Gaithersburg

Property Owner: CSX Transportation, Inc. Tax Account ID Number: N/A

Tax Map Parcel Number(s): N/A Tax Map Number: N/A

Project: National Gateway Initiative Clearance Project Agency: FHWA/SHA

Agency Prepared By: A.D. Marble & Company

Preparer's Name: Emma Young Date Prepared: 10/6/2009

Documentation is presented in: Montgomery County Planning Department, Historic Preservation Section, Silver Spring, Maryland.

Preparer's Eligibility Recommendation: X Eligibility recommended ____ Eligibility not recommended

Criteria: X A ___ B X C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

Complete if the property is a contributing or non-contributing resource to a NR district/property:

Name of the District/Property: ____

Inventory Number: ____ Eligible: ____ yes Listed: ____ yes

Site visit by MHT Staff ____ yes X no Name: ____ Date: ____

Description of Property and Justification: *(Please attach map and photo)*

Architectural Description:

The following is summarized from Montgomery County Department of Public Works and Transportation, Bridge No. M-0132 Deer Park Drive over CSXT Railroad Biennial Bridge Inspection Report, 2007.

The Washington Grove Humpback Bridge carries East Deer Park Drive over the CSX Transportation, Inc., Railroad tracks, connecting the towns of Oakmont and Washington Grove, east of the city of Gaithersburg, Montgomery County, Maryland. The bridge, constructed in 1945, receives its name from the hipped, or humped, shape of its profile, which is located approximately 20-feet above the double tracks and railroad bed. The bridge facilitates vehicular traffic along East Deer Park Drive over the railroad tracks to form a T-intersection with Railroad Street, which borders the west side of the National Register-listed Washington Grove Historic District. The superstructure of the bridge was rehabilitated in 1988 and 2001. The timber bents located underneath the bridge were recently replaced in-kind in spring 2009. The Montgomery County Planning Board added the bridge to the Locational Atlas and Index of Historic Sites in 2005.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended Y **Eligibility not recommended** ____

Criteria: Y A ___ B ___ C ___ D **Considerations:** ___ A ___ B ___ C ___ D ___ E ___ F ___ G

MHT Comments:

Jim Gallagher 11/13/09
Reviewer, Office of Preservation Services **Date**

[signature] 11/13/09
Reviewer, National Register Program **Date**

200904223

The Washington Grove Humpback Bridge consists of an 85-feet long, 22-feet wide, three-span steel beam structure, with a timber deck and bituminous concrete surface. Each of the three spans is comprised of five sets of steel I-beam stringers, with both ends of the center span stringers resting on two timber bents on either side of the railroad tracks. The two outer spans extend from concrete abutments at the approach level to rest on timber bents. A curving shim rests on each of the five center-span stringers, giving the bridge its humpback profile. A double-strand timber railing and W-beam metal guardrail frame the superstructure. Galvanized shoes bolted to blocks on the outer stringer anchor the wood posts of the railing.

The substructure of the bridge is comprised of timber bents set into concrete footings, concrete abutments, wingwalls, and slope between the abutment and bent footings. The timber bents were added in spring 2009 as part of an in-kind replacement that replicated the previous configuration. Each timber bent is comprised of five 12-inch-by-12-inch vertical posts approximately 14-feet high resting on timber bases bolted to a concrete footing. Diagonal timbers stretch from the cap of the bent to the base, and the outer two vertical posts lean inward, giving the bent a trapezoidal shape. All stringers are bolted into the cap of the timber bents; the outer stringers are bolted into the concrete abutments through a wood sill.

Traffic lights at each bridge approach maintain alternating one-way traffic across the bridge. Mature evergreen and deciduous vegetation largely characterize the setting surrounding the bridge. Vegetation largely screens the bridge from the town of Washington Grove, which is situated to the east. Oakmont Avenue is located to the south and Railroad Street to the north. Small-scale commercial buildings dating to the mid- to late-twentieth century are located to the northwest of the bridge, with woods located to the southwest.

Historical Narrative:

The following is taken from Gail Littlefield, Washington Grove Humpback Bridge Maryland Inventory of Historic Properties Form, April 2005; on file at the Montgomery County Planning Department, Historic Preservation Section, Silver Spring, Maryland, except where noted.

The present Washington Grove Humpback Bridge was constructed by the Baltimore & Ohio (B&O) Railroad in 1945 to replace an earlier timber bridge of identical profile erected by the B&O Railroad in the 1870s.

The B&O Railroad, America's first common carrier, was chartered on February 28, 1827 by a group of Baltimore businessmen to ensure that traffic would not be lost to the proposed Chesapeake & Ohio Canal. Both the new railroad and new canal broke ground on the same day of July 4, 1828. By May 24, 1830, the new railroad line was complete from Baltimore to Ellicott's Mills, Maryland. Two years later, by 1832, the line reached Point of Rocks, Maryland on the Potomac River, and the B&O Railroad expanded steadily with a branch reaching Washington, D.C. in 1835, Cumberland, Maryland in 1851, and Wheeling, West Virginia, in 1852. As people migrated further west, the cities of Cincinnati, St. Louis, and Chicago became the new targets for the B&O Railroad, with the railroad finally reaching Chicago in November 1874. By the end of the nineteenth century, the B&O Railroad had achieved almost 5,800 miles of track and connected Chicago and St. Louis to Baltimore, Washington, Philadelphia, and New York City (CSX Transportation 2009).

In 1865, the State of Maryland issued a charter for a new western branch of the B&O Railroad, dubbed the Metropolitan Railroad, which stretched across Montgomery County from the northwest corner of Washington, D.C. to the mouth of the Monacacy River (Edwards 1988: 27). The original intent of the branch was to end the isolation of central Montgomery County and enable the port of Georgetown to share in the rich trade with the West (Rothrock 1979). The B&O Railroad purchased right-of-way for their new line near what would become Washington Grove from Nathan Cooke on the north side of the tracks and John Clements on the

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south side. On May 25, 1873, the line opened to passengers and freight, bringing with it new residents seeking economic opportunity and visitors wishing to escape from the city into the county. New suburban communities quickly sprang up at Silver Spring, Forest Glen, Capitol View Park, Kensington, Garrett Park, Boyds, and Washington Grove (Rothrock 1979). In addition, the Metropolitan Branch revolutionized transportation and trade throughout Montgomery County.

One of the groups of seasonal visitors was the Washington Grove Camp Meeting Association (Association), founded by five Methodist churches in Washington, D.C., with the purpose of acquiring a summer religious retreat site. In 1873, the Association purchased the land now known as the Town of Washington Grove from the widow of Nathan Cooke. The proximity of the site to the new railroad line largely contributed to the site selection. Regular and eventually excursion passenger service was established at Washington Grove, with a wood depot followed by a rail siding. Members of the Association erected tents and cottages where they stayed for the summer season, while others traveled to the site for the day or stayed at the nearby hotel for shorter periods of time. The Washington Grove Camp Meeting grew quickly in popularity and members, with as many as 12,000 visitors, almost all arriving by rail, in a single day.

The first bridge crossing the B&O Railroad tracks at Washington Grove was built in the 1870s, at the location of the present bridge, over a blind curve in the tracks. The three-span bridge was erected in the humpback design utilizing frame pony truss timber beam construction. The unique hump in the bridge was most likely due to the need to provide clearance for the increasingly larger rail stock and to allow for a brakeman to ride on top of the railcars as the train rounded the blind corner. The Lang 1886 Subdivision Map of Washington Grove shows the bridge carrying a "county road" (later East Deer Park Drive over to Gaithersburg Road (later Railroad Street), which, at the time, was nothing more than a dirt track created by local farmers transporting their goods to the railroad depot at Washington Grove. The placement of the bridge over the blind curve eliminated a dangerous situation by facilitating animals and people over the railroad tracks instead of crossing at-grade of an approaching train. The bridge provided the only above-grade crossing for pedestrians and animals alike, therefore facilitating the transfer of passengers, produce, and goods to and from the Washington Grove Station.

The humpback bridge evolved as an engineering solution to the surrounding landscape. Approaches to the bridge were constrained by the flat landscape coupled by the need to erect a bridge under which railroad cars could pass. The existence of a blind curve at the bridge necessitated additional height to allow the brakeman to ride on top of the railcars. The orthogonal street plan of Washington Grove prevented a more gradual incline to the east.

The developers of Oakmont, a subdivision platted in 1888 on the south side of the bridge, took advantage of the Washington Grove Camp Meeting, the railroad depot, and the convenience of the humpback bridge to sell their lots to residents. Double tracking was completed between Washington, D.C. and Gaithersburg ca. 1905, which facilitated an increase in the number of commuter and freight trains, and further attracted residents and visitors alike to the area. Consequently, the towns of Washington Grove and Oakmont continued to grow and thrive. Mail cranes were situated along the tracks near Washington Grove during this time as well. These cranes suspended bags of outgoing mail at the correct height to be snagged by passing mail trains.

By the 1930s, Washington Grove was populated year-round. In 1937, the Association officially became the Town of Washington Grove. Residents and town officials were complaining about the dilapidated condition of the bridge. In 1945, the B&O Railroad heeded the complaints of Washington Grove residents and replaced the 1870s bridge with the present humpback bridge. The bridge design, drafted by the B&O Railroad's Engineering Office in Baltimore, differed from the original 1870s bridge only in that the new bridge would have a rounded surface on the center span instead of the preceding table-like appearance of the 1870s bridge. However, the in-kind timber replacement of the then-existing bridge was outdated by 1945 standards in that such a simple timber beam bridge was an inexpensive and common railroad crossing type in the nineteenth and early twentieth centuries. However, by 1945, traffic loads stressed the limits of timber construction thereby making timber-constructed bridges rare. Therefore, the 1945

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timber humpback bridge was an anomaly because it utilized a method and material of construction that was outdated.

According to an agreement dated September 7, 1945, between the B&O Railroad and the Board of County Commissioners of Montgomery County, the railroad was to reconstruct the present bridge at the same point 600 feet west of the Washington Grove Station, with a minimum clearance of 19 feet, increased load limit of 15 tons, and an increased clear roadway width of 20 feet. The railroad agreed to remove the existing timber bridge and construct a new three-span, treated timber bridge. Montgomery County agreed to acquire the necessary property and place all fill and roadway surface necessary to raise and change the existing roadway approaches to meet the grade of the new bridge. Upon completion, the railroad would maintain the bridge and the county would maintain the approaches.

Although the 1945 bridge as completed was higher and wider than the 1870s bridge, no improvements were made to its approaches. Consequently, in one way, the new bridge was more dangerous than the old bridge in that it had more of a hump, or arch, to it so as a vehicle crested the bridge, the driver could not see oncoming traffic over his hood (Edwards 1999: 156). Therefore, the bridge was soon relegated to allow only one lane of traffic, as cycled by traffic signals at each approach.

In 1986, the B&O line came under ownership and the authority of CSX Transportation, Inc., which continues operations on the rail line in 2009. In 1987, CSX Transportation, Inc., and Montgomery County entered into an agreement over their respective responsibilities concerning the humpback bridge. The County would take over the bridge at completion of the repairs, and CSX Transportation, Inc., agreed to provide the labor to demolish the superstructure and upgrade the bridge by replacing the timber deck in-kind and replacing the original timber stringers with five steel beams, with the County reimbursing CSX Transportation, Inc., for the materials. In addition, the timber bent caps and the abutment sill were replaced in-kind as part of the 1980s upgrades.

In 2001, the bridge was re-decked, and the guardrail was replaced in-kind. In spring 2009, the timber bents that support the superstructure were replaced in-kind. No further work or repairs have occurred to the bridge since this time.

Significance Evaluation:

The significance evaluation is largely summarized from Gail Littlefield, Washington Grove Humpback Bridge Maryland Inventory of Historic Properties Form, April 2005; on file at the Montgomery County Planning Department, Historic Preservation Section, Silver Spring, Maryland.

The Washington Grove Humpback Bridge is eligible for listing in the National Register of Historic Places under Criterion A in the area of transportation and community planning. The bridge is also eligible under Criterion C in the area of Architecture/Engineering.

The Washington Grove Humpback Bridge is eligible under Criterion A for its association with transportation and community development trends of the late-nineteenth and twentieth centuries and as a contributing resource to the Washington Grove Historic District and Metropolitan Branch of the B&O Railroad. The B&O Railroad attracted residents, visitors, and commerce to this part of Montgomery County, and the bridge, designed and erected by the B&O Railroad, facilitated the development of transportation, industry, agriculture, and the surrounding communities by providing a safe above-grade crossing for passengers, produce, and animals traveling into and out of Washington Grove Station. With the completion of the Metropolitan Branch of the B&O Railroad, the communities of Washington Grove (1873) and Oakmont (1888) and the larger city of Gaithersburg thrived. The Washington Grove Humpback Bridge facilitated communication, travel, and trade across the railroad tracks, which bisected the county in the late-nineteenth and early twentieth centuries. The bridge proved essential to the farmers whose land was bisected by the tracks of the B&O Railroad. The bridge linked traffic from Rockville and Washington, D.C., to Washington Grove,

MARYLAND HISTORICAL TRUST REVIEW

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Laytonsville, and east Gaithersburg. Further, the location of the bridge at Washington Grove influenced the development of area roads. Railroad Street, east of the bridge, grew from a dirt track used by local farmers to get their produce to the railroad depot. The subdivision of Oakmont tied its street plan into the "county road" (later East Deer Park Drive) in order to gain access to the bridge.

The bridge is not eligible under Criterion B as it is not associated with persons of historical importance.

The Washington Grove Humpback Bridge is eligible under Criterion C in the area of Architecture/Engineering. The humpback form of the bridge exemplifies a rare bridge type in Montgomery County and the only humpback bridge of the 303 documented bridges in Montgomery County. The humpback bridge evolved as an engineering solution to the surrounding landscape in order to couple the flat landscape of the area roads with the height necessary to allow rail cars to pass underneath. Although the timber superstructure was replaced with steel beams as part of the 1988 repairs, the aesthetic quality and overall appearance of the bridge was maintained. All subsequent alterations have been carried out in-kind maintaining the 1945, and ultimately the 1870s, appearance of the bridge.

Archeological investigations have not been carried out at the site. Therefore, the eligibility of the property under Criterion D has not been evaluated.

Integrity and Boundary:

The humpback bridge retains integrity of design, materials, and workmanship, as the humpback form comprised of three spans, wood deck, timber bents, wood railing, and guardrails, remains intact because of steel stringers. The bridge retains integrity of location, carrying a county road (East Deer Park Drive) over the CSX Transportation, Inc., Railroad tracks, to the west of Washington Grove. Although late-twentieth century development detracts from the integrity of setting, the bridge retains its association and feeling as an early twentieth-century bridge carrying a county roadway over the railroad tracks. The boundary for the bridge includes the footprint of the structure surrounded by a ten-foot buffer in order to accommodate the approaches, all features associated with the bridge during its period of significance (1945).

References:

CSX Transportation
2009 "Baltimore & Ohio Railroad History," Available from http://csx.history.railfan.net/menuhistory.html.

Edwards, Phillip K.
1999 Washington Grove, 1937-1977: A History of the Town of Washington Grove, Maryland 20880. Published by Author.

1988 Washington Grove, 1873-1937: A History of the Washington Grove Camp Meeting Association. Published by Author.

Montgomery County Department of Public Works and Transportation
2007 Bridge No. M-0132 Deer Park Drive over CSXT Railroad Biennial Bridge Inspection Report, 2007.

Littlefield, Gail
2005 Washington Grove Humpback Bridge Maryland Inventory of Historic Properties Form. On file at the Montgomery County Planning Department, Historic Preservation Section, Silver Spring, Maryland.

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Rothrock, Gail
1979 Metropolitan Branch, Baltimore & Ohio Railroad Maryland Inventory of Historic Properties Form. On file at the Maryland Historical Trust, Crownsville, Maryland.

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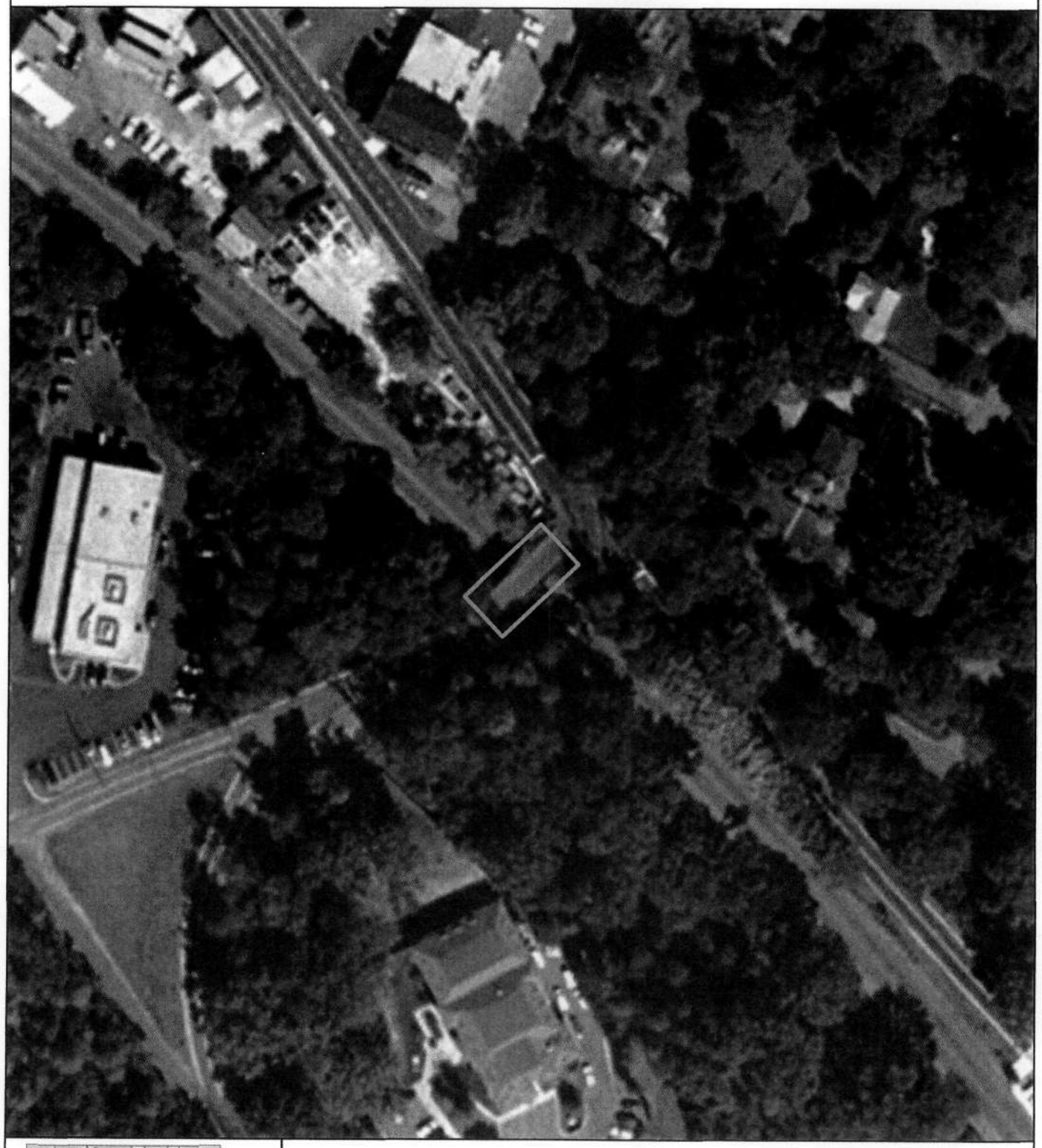
Proposed National Register Boundary
Washington Grove Humpback Bridge
M: 21-220
Montgomery County, Maryland



100 0 100 Feet

Proposed National Register Boundary

CSX National Gateway Clearance Improvement Project

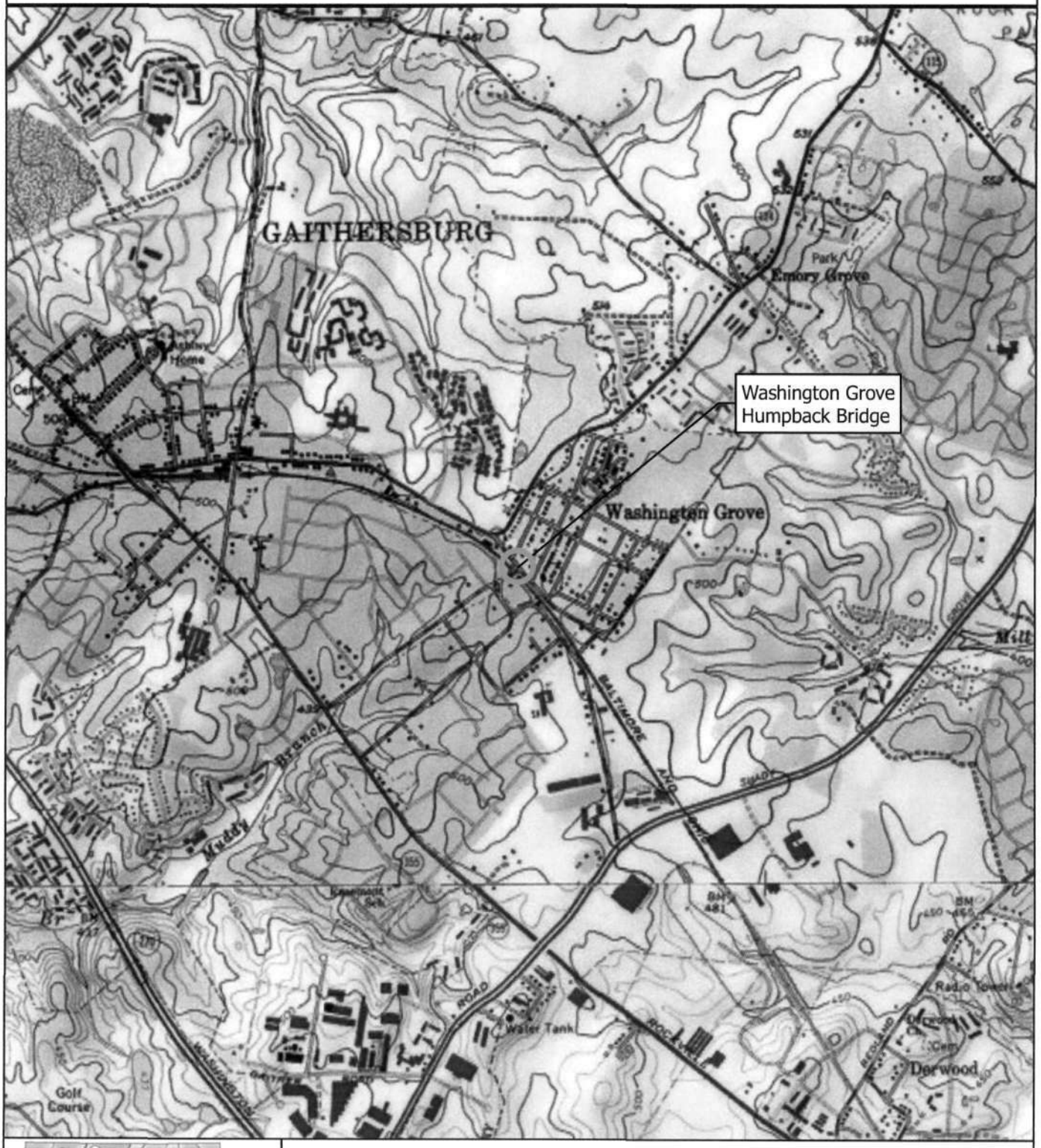
Map Source: © 2009 i-cubed

Washington Grove Humpback Bridge (M: 21-220)
Digital Photo Log: All photographs printed using Epson Ultrachrome Pigmented Ink on Epson Premium Matte Photo Paper

Photo File Name	MIHP #	Property Name	County	Photographer	Date of Photo	Photo Description	Photo Sequence
M: 21-220_200908_01	M: 21-220	Washington Grove Humpback Bridge	Montgomery	AECOM	08/2009	Washington Grove Humpback Bridge, view to north. Note Railroad Street to right.	1 of 6
M: 21-220_200908_02	"	"	"	"	"	Washington Grove Humpback Bridge, view to south. Note timber railing and piers.	2 of 6
M: 21-220_200908_03	"	"	"	"	"	Washington Grove Humpback Bridge, view to north.	3 of 6
M: 21-220_200908_04	"	"	"	"	"	Washington Grove Humpback Bridge, view to north. Detail of east timber pier set into concrete abutment.	4 of 6
M: 21-220_200908_05	"	"	"	"	"	Washington Grove Humpback Bridge, view to northwest. Detail of west timber pier set into concrete abutment.	5 of 6
M: 21-220_200908_06	"	"	"	"	"	Washington Grove Humpback Bridge, view to southwest. Detail of timber deck.	6 of 6

Washington Grove Humpback Bridge
M: 21-220

Montgomery County, Maryland



Proposed National Register Boundary
Washington Grove Humpback Bridge
M: 21-220

Montgomery County, Maryland

100 0 100 Feet

Proposed National Register Boundary

CSX National Gateway Clearance Improvement Project

Map Source: © 2009 i-cubed

M: 21-220

WASHINGTON GROVE HUMPBACK BRIDGE

MONTGOMERY COUNTY, MARYLAND

AECOM

AUGUST 2009

MD SHPO

WASHINGTON GROVE HUMPBACK BRIDGE. VIEW TO NORTH.
NOTE RAILROAD STREET TO RIGHT.

PHOTO 1 OF 6

M: 21-220
WASHINGTON GROVE HUMPBACK BRIDGE
MONTGOMERY COUNTY, MARYLAND
AECOM
AUGUST 2009
MD SHPO
WASHINGTON GROVE HUMPBACK BRIDGE, VIEW TO SOUTH.
NOTE TIMBER RAILINGS AND PIERS.
PHOTO 2 OF 6

M: 21-220

WASHINGTON GROVE HUMPBACK BRIDGE

MONTGOMERY COUNTY, MARYLAND

AECOM

AUGUST 2009

MD SHPO

WASHINGTON GROVE HUMPBACK BRIDGE, VIEW TO NORTH.

PHOTO 3 OF 6

M: 21-220

WASHINGTON GROVE HUMPBACK BRIDGE

MONTGOMERY COUNTY, MARYLAND

AECOM

AUGUST 2009

MDSHPO

WASHINGTON GROVE HUMPBACK BRIDGE, VIEW TO NORTH. DETAIL OF EAST TIMBER PIER SET INTO CONCRETE ABUTMENT

PHOTO 4 OF 6

M: 21-220

WASHINGTON GROVE HUMPBACK BRIDGE

MONTGOMERY COUNTY, MARYLAND

AECOM

AUGUST 2009

MD SHPO

WASHINGTON GROVE HUMPBACK BRIDGE, VIEW TO NORTHWEST. DETAIL OF WEST TIMBER PIER SET INTO CONCRETE ABUTMENT

PHOTO 5 OF 6

M: 21-220

WASHINGTON GROVE HUMPBACK BRIDGE

MONTGOMERY COUNTY, MARYLAND

AECOM

AUGUST 2009

MDSHPO

WASHINGTON GROVE HUMPBACK BRIDGE, VIEW TO SOUTHWEST.

DETAIL OF TIMBER DECK

PHOTO 6 OF 6